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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,083	02/03/2004	Rudolf J. Hofmeister	15436.171.1	1066
22913	7590	06/06/2005	EXAMINER LE, TOAN M	
WORKMAN NYDEGGER (F/K/A WORKMAN NYDEGGER & SEELEY) 60 EAST SOUTH TEMPLE 1000 EAGLE GATE TOWER SALT LAKE CITY, UT 84111			ART UNIT 2863	PAPER NUMBER

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

81

Office Action Summary	Application No. 10/771,083	Applicant(s) HOFMEISTER ET AL.	
	Examiner Toan M. Le	Art Unit 2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8, 9, 11, 13, 17 and 21 is/are rejected.
- 7) ☒ Claim(s) 5-7, 10, 12, 14-16 and 18-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 1, 4, and 11 are objected to because of the following informalities:

Referring to claim 1, line 1, "an" should read -a-.

As to claims 4 and 11, line 4, "driver," should read -driver;-.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4, 8-9, 11, 13, 17, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by "A Novel Transmitter/Receiver Switching Circuit Configuration for High-Performance LD Transceiver in Subscriber Loop", Kimura et al. (referring hereafter Kimura et al.).

Referring to claim 1, Kimura et al. disclose a transceiver module useful in screening for electrostatic discharge damage to a laser diode included in the transceiver module (Abstract) comprising:

at least one selectable switch coupled to the laser diode and configured to selectively isolate the laser diode from other circuitry disposed in the transceiver module Page 1648, 2nd col., 1st paragraph; page 1649, 1st col., lines 13-15; figures 12 and 14(b)); and

a plurality of external test pins coupled to the oxide laser diode wherein the test pins are adapted to be connected to external testing equipment (figures 12 and 14(b)).

As to claim 2, Kimura et al. disclose a transceiver module useful in screening for electrostatic discharge damage to a laser diode included in the transceiver module (Abstract), further comprising a laser driver coupled to the laser diode, wherein the laser driver comprises the at least one selectable switch (figures 2 and 12).

Referring to claim 4, Kimura et al. disclose a transceiver module (Abstract) comprising:
a laser diode (LD Module in figure 14(b));
a laser driver coupled to the laser diode (LD Drive in figure 14(b));
a microprocessor coupled to the laser driver (page 1650, 2nd col., lines 1-8; figures 14(b) and 15);

memory coupled to the microprocessor, the memory comprising a reference operating characteristic of the laser diode (page 1644, 2nd col., lines 1-3; page 1650, 2nd col., lines 1-8; figure 12); and

wherein the microprocessor is adapted to collect periodic operating characteristics of the laser diode and to compare the periodic operating characteristics of the laser diode to the reference operating characteristics of the laser diode (page 1647, 2nd col., last paragraph; figures 5 and 12).

As to claim 8, Kimura et al. disclose a transceiver module (Abstract), wherein the reference and periodic operating characteristics of the laser diode comprise current versus optical power characteristics (page 1648, 1st col., 1st paragraph; figure 10).

Art Unit: 2863

Referring to claim 9, Kimura et al. disclose a transceiver module (Abstract), wherein the microprocessor is further adapted to store the periodic operating characteristics of the laser diode in the memory (page 1650, 2nd col., lines 1-8; figures 14(b) and 15).

As to claim 11, Kimura et al. disclose a transceiver module (Abstract) comprising:

a laser diode (LD Module in figure 14(b));

a laser driver coupled to the laser diode (LD Drive in figure 14(b));

a microprocessor coupled to the laser driver (page 1650, 2nd col., lines 1-8; figures 14(b) and 15);

memory coupled to the microprocessor (page 1644, 2nd col., lines 1-3; page 1650, 2nd col., lines 1-8; figure 12) ; and

wherein the microprocessor is adapted to:

collect periodic operating characteristics of the laser diode at various times (page 1647, 2nd col., last paragraph; figures 5 and 12);

store the collected periodic operating characteristics of the laser diode in the memory (page 1650, 2nd col., lines 1-8; figures 14(b) and 15); and

compare the periodic operating characteristics of the laser diode collected at at least two different times to detect damage to the laser diode (page 1647, 2nd col., last paragraph; figures 5 and 12).

Referring to claim 13, Kimura et al. disclose a transceiver module (Abstract), wherein the periodic operating characteristics comprise current versus optical power characteristics (page 1648, 1st col., 1st paragraph; figure 10).

Art Unit: 2863

As to claim 17, Kimura et al. disclose a method of manufacturing a transceiver module comprising:

coupling a laser diode to a laser driver (figure 14(b));

coupling the laser driver to a microprocessor (page 1650, 2nd col., lines 1-8; figures 14(b) and 15);

coupling the microprocessor to memory (page 1644, 2nd col., lines 1-3; page 1650, 2nd col., lines 1-8; figure 12);

storing reference operating characteristics of the laser diode in the memory (page 1650, 2nd col., lines 1-8; figures 14(b) and 15); and

configuring the microprocessor to collect periodic operating characteristics and to compare the reference operating characteristics with the periodic operating characteristics to detect damage to the laser diode (page 1647, 2nd col., last paragraph; figures 5 and 12).

Referring to claim 21, Kimura et al. disclose a method of manufacturing a transceiver module, further comprising generating reference operating characteristics for the diode prior to installing the laser diode in a transceiver (page 1649, 2nd col., 1st paragraph).

Claims 5-7, 10, 12, 14-16, and 18-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The reason for allowance of the claims 5-6, 10, 16, and 18-19 is the inclusion of an electronically erasable programmable read only memory coupled to the microprocessor for storing the reference operating characteristics of the laser diode as quadratic spline coefficients and the periodic operating characteristics of the laser diode as cubic spline coefficients.

The reason for allowance of the claims 7, 12, and 20 is the inclusion of the reference and periodic operating characteristics of the laser diode comprising current/voltage characteristics and current versus power characteristics stored in the memory.

The reason for allowance of the claims 14-15 is the inclusion of setting a fault flag when damage to the diode is discovered and notified by the microprocessor to an electronic component.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al. as applied to claim 1 above, and further in view of Roberts et al. (US Patent No. 6,802,654).

Referring to claim 3, Kimura et al. disclose a transceiver module useful in screening for electrostatic discharge damage to a laser diode included in the transceiver module (Abstract) comprising:

at least one selectable switch coupled to the laser diode and configured to selectively isolate the laser diode from other circuitry disposed in the transceiver module Page 1648, 2nd col., 1st paragraph; page 1649, 1st col., lines 13-15; figures 12 and 14(b)); and

a plurality of external test pins coupled to the oxide laser diode wherein the test pins are adapted to be connected to external testing equipment (figures 12 and 14(b)).

Art Unit: 2863

Kimura et al. do not mention the external test pins are pogo style pins.

Roberts et al. disclose a transceiver module, wherein the external test pins are pogo style pins (col. 4, lines 62-67 to col. 5, lines 1-3; col. 5, lines 33-52).

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have applied the external test pins of pogo style as described in the Roberts et al. reference into the reference of Kimura et al. to provide a spring loaded probe surface for depressing of spring loaded pogo pin to force the opposing end to extend distally thus completing the circuit to the test leads for activating the oxide laser diode.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

“Sensitivity of Proton Implanted VCSELs to Electrostatic Discharge Pulses”, Neitzert et al., IEEE Journal on Selected Topics in Quantum Electronics, Vol. 7, No. 2, March/April 2001, Pages 231-241

“Monolithic Vertical-Cavity Laser/p-I-n Photodiode Transceiver Array for Optical Interconnects”, Kazlas et al., IEEE Photonics Technology Letters, Vol. 10, No. 11, November 1998, Pages 1530-1532

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan M. Le whose telephone number is (571) 272-2276. The examiner can normally be reached on Monday through Friday from 9:00 A.M. to 5:30 P.M..

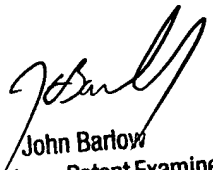
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the

Art Unit: 2863

organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Toan Le

May 24, 2005


John Barlow
Supervisory Patent Examiner
Technology Center 2800